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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,704	09/09/2005	James Bruce Franklin	CU-4189 BWH	7846

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EXAMINER	
KOSLOW, CAROL M	
ART UNIT	**PAPER NUMBER**
1793	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,704	FRANKLIN ET AL.	
	Examiner	Art Unit	
	C. Melissa Koslow	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 24-56 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 24-56 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 09 September 2005 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The listing of the Swift et al article in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the reference has not been considered.

The subject matter of claims 25-31 and 36-42 is not found in the Australian priority document. Thus the subject matter of these claims have the effective filing date of 5 November 2003. The subject matter of the remaining claims is found in the priority document and thus claims 25, 32-35 and 43-56 has the effective filing date 5 November 2005.

The disclosure is objected to because of the following informalities: The specification teaches the concentration in terms of amount (ppm) times the thickness (mm). The thickness variable is not defined and the only thickness taught is that used in the calculations of figures 3 and 4. If is unclear if the thickness in concentration in terms of amount (ppm) times the thickness (mm) is limited to the disclosed 2 mm, or if it can have any thickness. It is noted that pages 8 and 10 teach the dimensions of the collector are critical in determining the concentration. Appropriate correction is required.

Claims 25 and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

These claims teach the product of C and the thickness is between 320 and 200 ppm*mm. Page 4 teaches the product of C and the thickness is between 240 and 200 ppm*mm, 200 and 160 ppm*mm, 160 and 120 ppm*mm, 120 and 80 ppm*mm, 80 and 40 ppm*mm, 40 and 20 ppm*mm or less than 20 ppm*mm. This discrepancy between the claimed product and those disclosed in the specification needs to be clarified.

Claims 46-55 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Subject matter that is critical or essential to the practice of the invention, but not included in the claims mean that the claims are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The specification teaches the formula 3 is critical for performing the calculation in claim 46. This formula does not appear in the claims and thus the claims are not enables by the specification.

Claims 25-31 and 36-42 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Subject matter that is critical or essential to the practice of the invention, but not included in the claims mean that the claims are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The specification teaches the dimensions are critical in determining a dye concentration that gives the collector the properties of claims 24 and 35, which means the thickness range used to determine the claimed product is critical to the practice of the invention.

Claims 25-31, 36-42 and 46-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 25-31 and 36-44 are indefinite since there is no guidance as to what is the acceptable thickness range which is required to determine the concentration form the claimed product.

Claims 46-55 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the actual process of fabricating a light collector. The claims only teach the step of calculating the dye concentration. These claims are also indefinite since they do not set forth any steps involved in the actual method/process of fabricating the light collector. A claim is indefinite where it merely recites a calculation without any active, positive steps delimiting how this use is actually practiced.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-26, 32-37 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 4,492,778.

The examples teach a light collector having a thickness of 2 mm comprising a fluorescent dye uniformly dispersed in a transparent medium, where the dye molecules are not bonded to each other. The concentration of dye in the collector is about 100 ppm (0.01 wt%) and thus the product of the concentration and thickness is about 200 ppm*mm, which falls within the ranges of claims 25, 26, 36 and 37. Since the taught concentration meets the claimed requirement, it must be the amount that gives the properties of claims 24 and 35, absent any showing to the

contrary. While process for forming the taught light collect does not include the calculating step of claim 46, the taught collector reads upon that resulting from the claimed process i.e. that of claim 56, since the taught collector has a concentration that gives the optimum combined absorption and emission efficient and an increase light output. The reference teaches the claimed collector.

Claims 24, 27, 32-35, 38 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 6,272,265.

Column 6, lines 31-40 teaches a light collector sheet having a thickness of 2 mm and which comprising 70 ppm of a fluorescent dye uniformly dispersed in a transparent medium, where the dye molecules are not bonded to each other. The product of the concentration and thickness is 140 ppm*mm, which falls within the claimed ranges. Since the taught concentration meets the claimed requirement, it must be the amount that gives the properties of claims 24 and 35, absent any showing to the contrary. While process for forming the taught light collect does not include the calculating step of claim 46, the taught collector reads upon that resulting from the claimed process i.e. that of claim 56, since the taught collector has a concentration that gives the optimum combined absorption and emission efficient and an increase light output. The reference teaches the claimed collector.

Claims 24, 25, 32-36, 43-45 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/08756.

The examples teach a light collector having a thickness of 0.1-0.15 mm comprising 2000 ppm (0.2 wt%) of a fluorescent dye uniformly dispersed in a transparent medium, where the dye molecules are not bonded to each other. The product of the concentration and thickness is 200-

300 ppm*mm, which falls within the claimed ranges. Since the taught concentration meets the claimed requirement, it must be the amount that gives the properties of claims 24 and 35, absent any showing to the contrary. While process for forming the taught light collect does not include the calculating step of claim 46, the taught collector reads upon that resulting from the claimed process i.e. that of claim 56, since the taught collector has a concentration that gives the optimum combined absorption and emission efficient and an increase light output. The reference teaches the claimed collector.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24-29, 32-40, 43-45 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,548,490; 5,709,456 or 6,059,438.

All of these references teach a light collector system composed of light collector sheets having a thickness of 2 mm comprising a fluorescent dye uniformly dispersed in a transparent medium, where the dye molecules are not bonded to each other. The concentration of dye in the collector is 40-200 ppm (0.004-0.02 wt %) and thus the product of the concentration and thickness is 80-400 ppm*mm, which overlaps the claimed ranges. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Since the taught concentration overlaps the claimed requirement, it must be the overlapping ranges are

those that gives the properties of claims 24 and 35, absent any showing to the contrary. While process for forming the taught light collect does not include the calculating step of claim 46, the taught collector reads upon that resulting from the claimed process i.e. that of claim 56, since the taught collector has an overlapping concentration that gives the optimum combined absorption and emission efficient and an increase light output. The references suggest the claimed collector.

Claims 24-45 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/08756.

The reference teaches a light collector having a thickness of 0.1-0.15 mm comprising a fluorescent dye uniformly dispersed in a transparent medium, where the dye molecules are not bonded to each other. The concentration of dye can be between about 100 and about 2000 ppm (0.01-0.2 wt%) and thus the product of the concentration and thickness is about 10 to about 300 ppm*mm, which overlaps the claimed ranges. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Since the taught concentration overlaps the claimed requirement, it must be the overlapping ranges are those that gives the properties of claims 24 and 35, absent any showing to the contrary. While process for forming the taught light collect does not include the calculating step of claim 46, the taught collector reads upon that resulting from the claimed process i.e. that of claim 56, since the taught collector has an overlapping concentration that gives the optimum combined absorption and emission efficient and an increase light output. The references suggest the claimed collector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cmk
November 9, 2007

C. Melissa Koslow
Primary Examiner
Art Unit 1793